WHAT IS CLAIMED IS:

1. A multilayer substrate for a buildup with a via, which multilayer substrate comprises a base material comprising an insulation resin layer and, if necessary, a copper layer or an extra thin copper foil formed on either one or both surfaces of said insulation resin layer, and which multilayer substrate has a predetermined hole formed on said insulation resin layer,

wherein an electrodeposition layer is formed by circular oscillation electroplating on the inside wall surface of said hole and on the predetermined surface of said insulation resin layer,

the electrodeposition layer on said inside wall surface of said hole being formed in a thickness greater than the electrodeposition layer formed on said surface of said insulation resin layer.

2. The multilayer substrate for a buildup with a via according to Claim 1, which multilayer substrate comprises the base material comprising the insulation resin layer and the copper layer formed on one surface thereof, and which multilayer substrate has the hole which reaches said copper layer formed on one surface and is formed on the insulation resin layer,

wherein the electrodeposition layer is formed by

circular oscillation electroplating on the inside wall surface of said hole and on the surface of the copper-layer unformed-side of said insulation resin layer,

the electrodeposition layer on said inside wall surface of said hole being formed in a thickness greater than the electrodeposition layer formed on said surface of said insulation resin layer.

3. The multilayer substrate for a buildup with a via according to Claim 2, wherein the hole on the insulation resin layer is filled up with the electrodeposition layer formed on the inside wall surface of said hole formed on the insulation resin layer.

4. The multilayer substrate for a buildup with a via according to Claim 2, wherein the hole provided with the electrodeposition layer formed on the inside wall surface thereof on the insulation resin layer is plurally formed at predetermined intervals on the multilayer substrate.

5. The multilayer substrate for a buildup with a via according to Claim 2, wherein the hole provided with the electrodeposition layer formed on the inside wall surface thereof in the insulation resin layer is plurally formed at circuit-formed positions on the multilayer substrate.

6. The multilayer substrate for a buildup with a via according to Claim 1, which multilayer substrate comprises the base material on which the hole penetrating through

the insulation resin layer is formed,

wherein the electrodeposition layer is formed by circular oscillation electroplating on the inside wall surface of said hole and on both surfaces of said insulation resin layer,

the electrodeposition layer on said inside wall surface of said hole being formed in a thickness greater than the electrodeposition layer formed on both surfaces of said insulation resin layer.

7. The multilayer substrate for a buildup with a via according to Claim 6, wherein the hole on the insulation resin layer is filled up with the electrodeposition layer formed on inside wall surface of said hole on the insulation resin layer.

8. The multilayer substrate for a buildup with a via according to Claim 6, wherein the hole provided with the electrodeposition layer formed on the inside wall surface thereof in the insulation resin layer is plurally formed at predetermined intervals on the multilayer substrate.

9. The multilayer substrate for a buildup with a via according to Claim 6, wherein the hole provided with the electrodeposition layer formed on the inside wall surface thereof in the insulation resin layer is plurally formed at circuit-formed positions on the multilayer substrate.

10. The multilayer substrate for a buildup with a via

according to Claim 1, which multilayer substrate comprises a base material having an extra thin copper foil on one side of the insulation resin layer and a through-hole formed thereon,

wherein the electrodeposition layer is formed on the surface of said extra thin copper foil, on the surface of said insulation resin layer and on the inside wall surface of said through-hole by circular oscillation electroplating,

the electrodeposition layer on the inside wall surface of the through-hole being formed in a thickness larger than the electrodeposition layer on the surface of the insulation resin layer.

11. The multilayer substrate for a buildup with a via according to Claim 10, wherein the through-hole is filled up with the electrodeposition layer formed on the inside wall surface of said through-hole.

12. The multilayer substrate for a buildup with a via according to Claim 10, wherein the extra thin copper foil on one surface of the insulation resin layer has a thickness of 1 to 5 μm.

13. The multilayer substrate for a buildup with a via according to Claim 1, which multilayer substrate comprises the base material having an extra thin copper foil on one surface of the insulation resin layer and which multilayer

substrate has a hole reaching said extra thin copper foil and formed on the insulation resin layer,

wherein the electrodeposition layer is formed on the surface of the extra thin copper foil, on the surface of said insulation resin layer and on the inside wall surface of said hole by circular oscillation electroplating,

the electrodeposition layer on said inside wall surface of said hole being formed in a thickness larger than the electrodeposition layer on the surface of said insulation resin layer.

14. The multilayer substrate for a buildup with a via according to Claim 13, wherein the hole is filled up with the electrodeposition layer formed on the inside wall surface of the hole reaching the extra thin copper foil in the insulation resin layer.

15. The multilayer substrate for a buildup with a via according to Claim 13, wherein the extra thin copper foil on one surface of the insulation resin layer has a thickness of 1 to 5 μm.

16. A method for producing a multilayer substrate for a buildup with a via, comprising:

a step of forming a predetermined hole using a laser in a base material comprising an insulation resin layer and, if necessary, a copper layer or an extra thin copper foil formed on either one or both surfaces of said

insulation resin layer;

a step of performing electroless plating, copper sputtering or activating treatment on the base material on which said hole is formed; and

an electroplating step of performing electroplating to generate a vortex flow of an electroplating solution inside said hole by oscillating said base material circularly in an electroplating bath, to form an electrodeposition layer on the inside wall surface of said hole and on a predetermined surface of said insulation resin layer, whereby the electrodeposition layer on the inside wall surface of said hole is formed in a thickness larger than the electrodeposition layer formed on said surface of said insulation resin layer.

17. The method for producing the multilayer substrate for a buildup with a via according to Claim 16, comprising:

a step of forming the hole reaching the copper layer, formed on one surface, by using a laser on the insulation resin layer formed on the base material comprising said insulation resin layer and said copper layer formed on one surface;

a step of performing electroless plating, copper sputtering or activating treatment on the base material in which said hole is formed; and

an electroplating step of performing electroplating

to generate the vortex flow of the electroplating solution inside of said hole by oscillating said base material circularly in the electroplating bath to form the electrodeposition layer on the inside wall surface of said hole and on the surface of the copper-layer unformed-side of said insulation resin layer, whereby the electrodeposition layer on said inside wall surface of said hole is formed in a thickness larger than the electrodeposition layer formed on said surface of the copper-layer unformed-side of said insulation resin layer.

18. The method for producing the multilayer substrate for a buildup with a via according to Claim 17, wherein, in the electroplating step of generating the vortex flow inside the hole by oscillating circularly in the electroplating bath, the flow rate of the electroplating solution inside said hole is higher than that of the electroplating solution on the surface of the insulation resin layer.

19. The method for producing the multilayer substrate for a buildup with a via according to Claim 16, comprising:

a step of forming a hole penetrating through an insulation resin layer by using a laser;

a step of performing electroless plating, copper sputtering or activating treatment on the base material in which said hole is formed; and

an electroplating step of performing electroplating to generate the vortex flow of an electroplating solution inside said hole by oscillating the base material circularly in the electroplating bath, to form the electrodeposition layer on the inside wall surface of said hole and on both surfaces of said insulation resin layer, whereby the electrodeposition layer on the inside wall surface of the said is formed in a thickness larger than the electrodeposition layer formed on both surfaces of said insulation resin layer.

20. The method for producing the multilayer substrate for a buildup with a via according to Claim 19, wherein, in the electroplating step of generating the vortex flow inside the hole by the circular oscillation in the electroplating bath, the flow rate of the electroplating solution inside said hole is higher than that of the solution on the surface of the insulation resin layer.

21. The method of producing the multilayer substrate for a buildup with a via according to Claim 16, comprising:

a step of working an extra thin copper foil of the base material having said extra thin copper foil on one surface of the insulation resin layer by treatment allowing good laser workability to form a through-hole from the side of said extra thin copper foil by laser via-working;

a step of performing electroless plating, copper sputtering or activating treatment on the base material on which the through-hole is formed; and

a circular oscillation electroplating step of performing electroplating to generate the vortex flow of the electroplating solution inside said through-hole by oscillating said base material circularly in the electroplating bath to thereby form the electrodeposition layer on the surface of the extra thin copper foil, on the surface of the insulation resin layer and on the inside wall surface of the through-hole in said base material,

wherein the electrodeposition layer on said inside wall surface of said through-hole is formed in a thickness larger than the electrodeposition layer formed on said surface of said insulation resin layer.

22. The method for producing a multilayer substrate for a buildup with a via according to Claim 16, comprising:

a step of peeling off the base material from a carrier copper foil and forming a through-hole by laser via-working from the side of the extra thin copper foil treated for allowing good laser workability, wherein the base material having the extra thin copper foil treated for allowing good laser workability on one surface of the insulation resin layer is bonded with the carrier copper foil on said extra thin copper foil;

a step of performing electroless plating, copper sputtering or activating treatment on said base material on which the through-hole is formed; and

a circular oscillation electroplating step of performing electroplating to generate the vortex flow of the electroplating solution inside of the through-hole by oscillating said base material circularly in the electroplating bath to thereby form the electrodeposition layer on the surface of the extra thin copper foil, on the surface of the insulation resin layer and on the inside wall surface of the through-hole on said base material,

wherein the electrodeposition layer on said inside wall surface of said through-hole is formed in a thickness larger than the electrodeposition layer formed on the surface of said insulation resin layer.

23. The method for producing the multilayer substrate for a buildup with a via according to Claim 16, comprising:

a step of processing a copper foil of the base material having said copper foil on one surface of the insulation resin layer by treatment for allowing good laser workability and forming a through-hole from the side of said copper foil by laser via-working;

a step of making the copper foil of said base material, on which said through-hole is formed, into an extra thin copper foil by etching;

a step of performing electroless plating, copper sputtering or activating treatment on said base material; and

a circular oscillation electroplating step of performing electroplating to generate the vortex flow of the electroplating solution inside the through-hole by oscillating said base material circularly in an electroplating bath to thereby form the electrodeposition layer on the surface of the extra thin copper foil, on the surface of the insulation resin layer and on the inside wall surface of said through-hole in said base material,

wherein the electrodeposition layer on said inside wall surface of said through-hole is formed in a thickness larger than the electrodeposition layer formed on said surface of the insulation resin layer.

24. The method for producing the multilayer substrate for a buildup with a via according to Claim 16, comprising:

a step of forming the hole reaching the extra thin copper foil on the insulation resin layer by performing laser via-working from the side of the insulation resin layer of the base material having the extra thin copper foil on one surface of the insulation resin layer;

a step of performing electroless plating, copper sputtering or activating treatment on said base material on which said hole reaching said extra thin copper foil is

formed on said insulation resin layer; and

a circular oscillation electroplating step of performing electroplating to generate the vortex flow of the electroplating solution inside said hole of said insulation resin layer reaching said extra thin copper foil by oscillating said base material circularly in the electroplating bath to thereby form the electrodeposition layer on the surface of the extra thin copper foil, on the surface of the insulation resin layer and on the inside wall surface of the hole in the base material,

wherein the electrodeposition layer on the inside wall surface of said hole is formed in a thickness larger than the electrodeposition layer formed on said surface of said insulation resin layer.

25. The method for producing the multilayer substrate for a buildup with a via according to Claim 16, comprising:

a step of forming the hole reaching the extra thin copper foil on the insulation resin layer by performing laser via-working from the side of the insulation resin layer of the base material in the condition that the base material is bonded with the carrier copper foil, wherein the base material provided with the extra thin copper foil on one surface of the insulation resin layer is bonded with a carrier copper foil;

a step of peeling off said base material provided

with said hole reaching said extra thin copper foil which hole is formed on the insulation resin layer, from said carrier copper foil and performing electroless plating, copper sputtering or activating treatment on the base material in which the through-hole is formed; and

a circular oscillation electroplating step of performing electroplating to generate the vortex flow of the electroplating solution inside said hole of said insulation resin layer reaching said extra thin copper foil by oscillating said base material circularly in the electroplating bath to thereby form the electrodeposition layer on the surface of the extra thin copper foil, on the surface of said insulation resin layer and on said inside wall surface of said hole in the base material,

wherein the electrodeposition layer on said inside wall surface of said hole is formed in a thickness larger than the electrodeposition layer formed on the surface of said insulation resin layer.